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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,742	01/18/2000	Geoffrey B. Rhoads	60096	1046

23735 7590 03/09/2004

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EXAMINER	
MEISLAHN, DOUGLAS J	

ART UNIT	PAPER NUMBER
2137	10

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/484,742	RHOADS, GEOFFREY B.	
	Examiner	Art Unit	
	Douglas J. Meislahn	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26,47 and 50-64* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5 and 7*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the terminal disclaimer and amendment filed 12 December 2003 that amended claims 26, 27, 30-32, 35, 38, 39, 41, 43, 46-48, 50-52, 54, 59, 65, and 66, and added claims 68-70. The objection and all but one of the 112 rejections have been corrected.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 47 and 51-64 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 47 recites the limitation "the combined dot product computations" in the third to last line. There is insufficient antecedent basis for this limitation in the claim. Drop “computations”.

Response to Arguments

5. With respect to applicant’s comments regarding the priority of the application, the examiner agrees with applicant about the presence of material supporting the term “lossy”. With respect to other elements, while the examiner agrees that the parent applications support audio signals, they do not support *steganographically* encoding a signal therein.

6. Applicant's arguments with respect to the double-patenting rejections have been rendered moot by the terminal disclaimer, which removes the patented claims from the realm of applicable prior art. They can thus no longer be used against the current claims.

7. As shown above, one of the 112 rejections remains.

8. Applicant's arguments filed 12 December 2003 have been fully considered but they are not persuasive.

9. The cited sections of Schwab et al. presents an equivalent of the means of claim 26.

10. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Schwab et al. have been shown to teach the protection of data from illegal copying, which is desirable and hence a motivation to combine Schwab et al. with Moses.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moses (5404377) in view of Schwab et al. (5134496).

Moses presents a system of that includes an audio channel, line six of the abstract, which reads on applicant's "source of data corresponding to an audio signal". The second NN (neural network), described in the last seven lines of the abstract, detects data embedded in an audio signal, where the detected data corresponds to applicant's embedded multi-bit auxiliary data and control signal. As described in lines six through nine of the abstract, the audio signal masks the embedded signals, thus anticipating that they be substantially imperceptible to a human listener. Moses does not say that the data decoded from the audio signal is used to inhibit copying of the audio signal. In their abstract and summary of the invention, Schwab et al. teach the use of imperceptibly embedded signals to prevent illicit copying of a data signal. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the data embedded in Moses' audio signal to protect that data from illegal copying, as taught by Schwab et al.

13. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Grady et al. in view of Gniewek et al.

O'Grady et al. teach a method of decoding encoded video to extract multi-bit auxiliary data therefrom, the encoded video representing a video sequence including plural image frames (column 2, line 61; plural video frames mentioned), the multi-bit auxiliary data being steganographically encoded therein, the multi-bit auxiliary data thus

being generally imperceptible to human viewers of the video sequence corresponding to the encoded video (lines 43-46 of column 1; the message data is embedded "unobtrusively"), the encoding taking the form of slight changes to portions of the video representing image information to thereby represent the multi-bit auxiliary data (column 1, lines 43-53; the low-level waveform is added to the original video at a level significantly below the noise level, so that the changes made are small), wherein the method includes applying the encoded video to a matched filter processing unit (68 and 70 in figure 2; encoded video from 42 is input to 68; column 4, lines 13-17), applying a reference signal to the matched filter processing unit (reference waveform from memory 58 is also input to 68 in figure 2; column 4, lines 13-17), and processing plural frames of the encoded video with the processing unit to extract the multi-bit auxiliary data therefrom (68 and 70 operate to calculate a correlation coefficient by correlating each frame with the reference waveform and summing the correlation results to detect the embedded waveform; see column 3, lines 38-50). O'Grady et al.'s system is explicitly for video, not audio like in the claims. Gniewek et al. teach that authentication materials, such as applicant's multi-bit auxiliary data, are useful in both audio and video data (lines 27-61 of column 8) and that techniques that generally apply to one will apply to the other. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply Gniewek et al.'s teaching of the versatility of watermarking techniques to O'Grady et al.'s system to create an audio corollary.

Allowable Subject Matter

14. Claims 27-46, 48, 49, and 65-70 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas J. Meislahn whose telephone number is (703) 305-1338. The examiner can normally be reached on between 9 AM and 6 PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A. Morse can be reached on (703) 308-4789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Douglas J. Meislahn
Examiner
Art Unit 2137

DJM